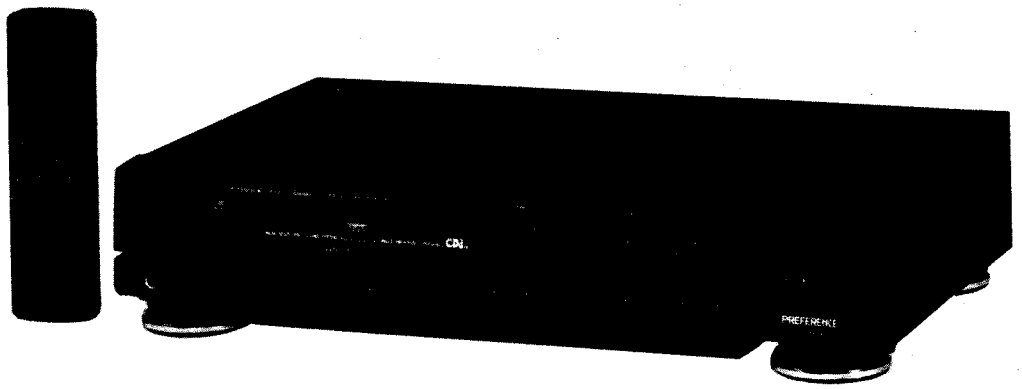
SERVICE MANUAL

FISHER

COMPACT DISC PLAYER WITH RAD-9060 WIRELESS REMOTE CONTROL

AD-9060

(EUROPE)



137 355 40

SPECIFICATIONS

System ..... Compact disc digital audio
Remote Control (RAD-9060) ..... 25-function wireless remote control

AUDIO CHARACTERISTICS

Frequency Response ..... 20 Hz – 20 kHz ±0.7 dB
Harmonic Distortion ..... Less than 0.008% (1 kHz) (20kHz Low Pass Filter)
Dynamic Range ..... More than 96 dB
S/N Ratio ..... More than 100 dB
Wow and Flutter ..... Below measurable limits
Channel Separation ..... More than 95 dB (1 kHz)
Output Voltage (maximum) ..... 2 Vrms

FUNCTIONS

Track/Program Selection ..... With FFWD and FBACK buttons
Index Selection ..... With SCAN/INDEX ▶ and ◀ buttons
Scanning(fast forward/fast back)
  Play mode: ..... 2-speed search with sound
  Pause mode: ..... 2-speed search without sound
Each/Remain/Total Time Display ..... With DISPLAY button during the PLAY mode

PROGRAM FUNCTIONS

Program Memory ..... 16 selections
Edit Disc Play
  Tape Length Selection C-46, C-60, C-90
  Display ..... Side AB editing time display
Introscan Play ..... 10 seconds/track
Random Play ..... With the RANDOM PLAY button during the PLAY mode
Repeat Play ..... One track/all tracks/all programmed tracks
Program Reset ..... With STOP button during PROGRAMMED PLAY mode
Pause ..... Each track
Disc Loading ..... Motor-driven,horizontal loading

DIGITAL SIGNAL PROCESSING

Optical Pickup ..... 3-beam laser
Sampling Frequency ..... 44.1 kHz
Filters ..... 18-bit, 8 times oversampling digital filter 2-pole active filter
D/A Conversion ..... Advanced 1 Bit, D/A converters

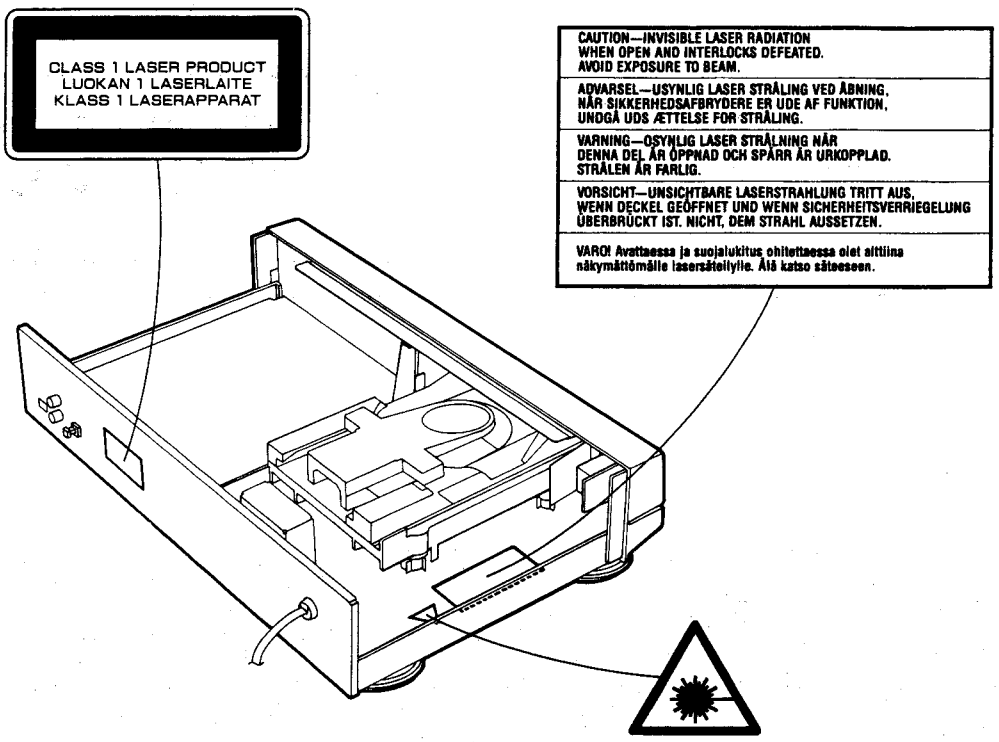
GENERAL

Power Requirements(50 Hz) ..... AC 110/220V 20 Watts
Dimensions (WxHxD) ..... 440 x 94 x 275 mm
Weight (approximate) ..... 3.6 kg

– Specifications and design are subject to change without notice. –

REFERENCE No. WM-570576

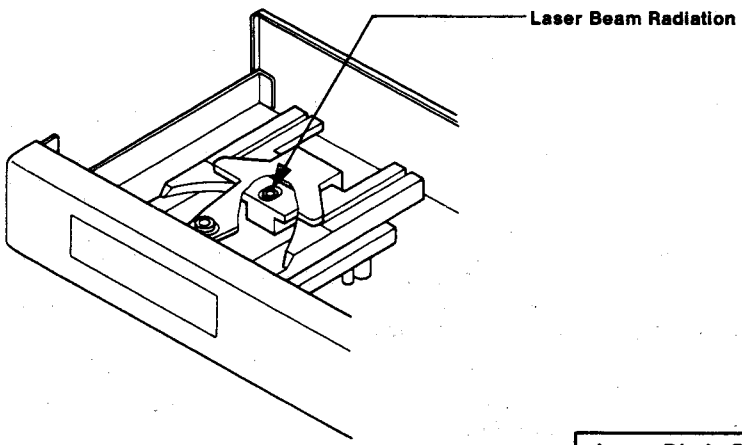
SAFETY CERTIFICATION


CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT
CAUTION—INVISIBLE LASER RADIATION
WHEN OPEN AND INTERLOCKS DEFEATED.
AVOID EXPOSURE TO BEAM.
ADVARSEL—USYNLIG LASER STRÅLING VED ÅBNING,
NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION,
UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARNING—OSYNLIG LASER STRÅLNING NÄR
DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD.
STRÅLEN ÄR FARLIG.
VORSICHT—UNSICHTBARE LASERSTRAHLUNG TRITT AUS,
WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG
ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN.
VARO! Avattaessa ja suojalukitus ohitettaessa olet alttiina
näkymättömälle lasersäteilylle. Älä katso säteeseen.

CAUTION – USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

THE COMPACT DISC PLAYER SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT QUALIFIED SERVICE PERSONNEL.

LASER BEAM RADIATION SPOT

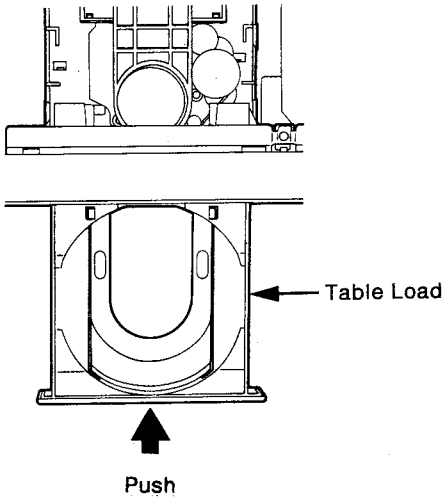


Laser Diode Properties
Material: Ga-Al-As
Wavelength: 755 – 815 nm (25°C)
Laser Output: Continuous Wave max.0.5 mW

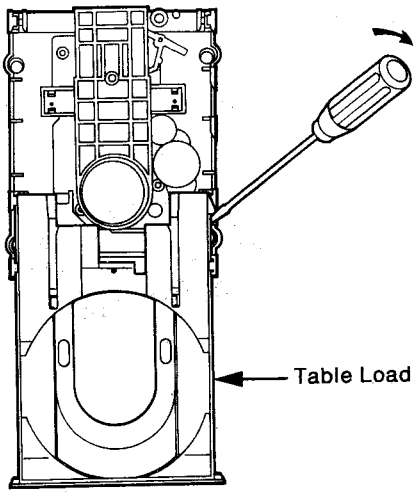
DISASSEMBLY PROCEDURES

REMOVING THE DISC TRAY

1. Apply Power Switch to the set and press the OPEN/CLOSE button to open the table load.
2. Apply OFF the Power Switch while the table load is open, and push the table load back in by hand to close it.

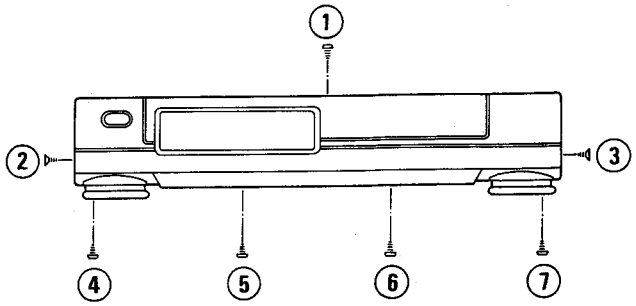


3. Pull out the table load by hand to open it again. The table load will disengage easily and come out smoothly.
4. Now remove the table load from the cabinet while pressing the tab in the direction of the arrow in the diagram below.

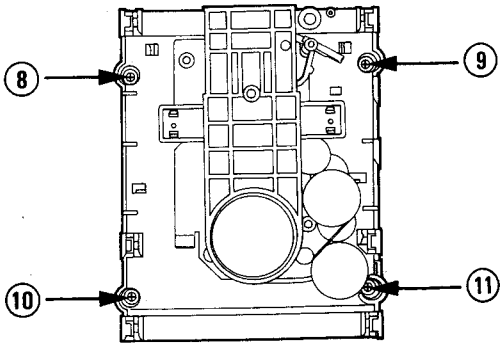


REMOVING THE MECHANISM

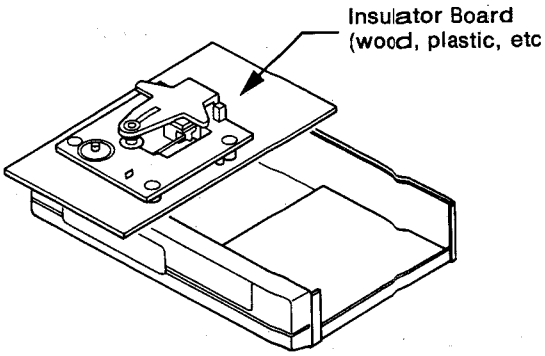
1. Take out the seven screws (1 ~ 7 in the diagram below) with which the Cabinet Front is mounted in place and remove the Cabinet Front.



2. Take out the four screws (8 ~ 11 in the diagram below) with which the mechanism is mounted in place and remove the mechanism.



- The mechanism should be removed with the lead wires still attached, and then placed on a wooden or plastic sheet as shown below to adjust the mechanism.



CD PLAYER ADJUSTMENT PROCEDURES

BEFORE CHECKING OR ADJUSTING CD PLAYER

1. Procedures for all adjustments for the CD player from start to finish are described below.
2. If no problems are found after each item is checked when the pick-up is replaced, there is no need to adjust all items again.

SETTING OF INITIAL POSITION OF VOLUME

1. Set the variable resistors to the initial positions listed below:

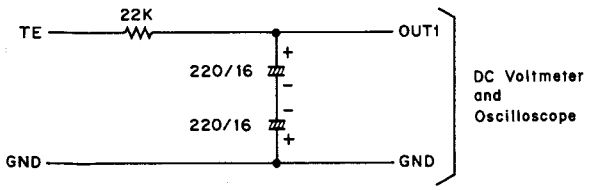
P101 (FOCUS GAIN) ..... Mechanical Center
P102 (FOCUS BALANCE) ..... Mechanical Center
P103 (TRACKING BALANCE) ..... Mechanical Center
P104 (TRACKING GAIN) ..... Mechanical Center
P105 (TRACKING OFFSET) ..... Mechanical Center
P106 (KICK GAIN) ..... Mechanical Center

PLL FREE RUN FREQUENCY ADJUSTMENT

1. Connect the frequency counter to the **PCK** terminal (CN08-2) to **GND.** (Use a 10:1 probe.)
2. Short the **HF** terminal (CN09-3) to **GND** through the capacitor (0.1μ~1μF).
3. Adjust the PLL coil T101 until the frequency counter indicator reads 4.3218MHz (4.317~4.327MHz) in the STOP mode.

TRACKING BALANCE ADJUSTMENT

1. Load the disc (Modern Wave Ⅱ) and play track number 1.
2. Short the **TEST** terminal (CN09-1) of μCOM and then the **TROF** terminal (CN09-6) to **GND** (Tracking servo off mode).
3. Attach the low-pass filter as shown in fig.1 to the tracking error terminal **TE** (CN09-5) and connect it into the oscilloscope and DC voltmeter.



Measurement Circuit

Fig.1

4. Adjust the Tracking Balance VR (P103) so that the DC voltmeter reading is 0V±50mV (Oscilloscope waveform is symmetric to + (plus) and − (minus) about the zero level.)

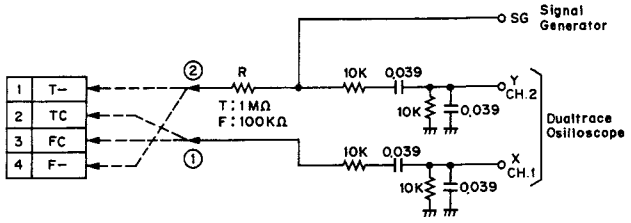
FOCUS BALANCE ADJUSTMENT

(Eye Pattern Adjustment)

1. Load the disc (Modern Wave Ⅱ) and play track number 1.
2. Connect the oscilloscope to the **HF** terminal (CN09-3). In this mode, adjust the Focus Balance VR (P102) so that the waveform shows maximum and clear.

TRACKING GAIN ADJUSTMENT

Use the measurement tools as shown in fig.2, and adjust the following.



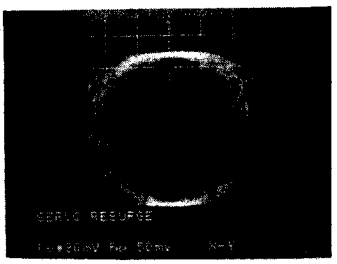
Measurement Circuit

Oscilloscope
X-Y Mode
(X:5mV/div,Y:20mV/div)

Fig.2

Tracking gain adjustment

1. Place the Tracking Gain VR (P104) in the mechanical center position.
   Load the disc (Modern Wave Ⅱ) and start playback.
2. Connect the ① measurement circuit as shown in fig.2 to the **TC** terminal (CN10-2) and connect the ② measurement circuit to the **T** − (minus) terminal (CN10-1) through the 1.0Ω resistor.
3. Now Input a signal of 1.2kHz, 1.2Vrms from the Audio signal generator to the ② measurement tool.
4. Set the oscilloscope to be the X-Y operation, and while observing the lissajous waveform adjust the Tracking Gain VR (P104) to the point where the phase difference is 90° (like a circle) as shown in fig.3 above.



X-Y Mode X:5mV/div
Y:20mV/div

Fig.3

TRACKING OFFSET ADJUSTMENT

1. Connect the DC voltmeter to the **TC** terminal (CN10-2) in the STOP mode and short the **TOF** terminal (CN09-2) to **GND.**
   Then adjust the Tracking Offset VR (P105) until 50mV (30~70mV) shows.

NOTE:
Perform this adjustment once again after adjusting the TRACKING BALANCE and TRACKING GAIN signals.

CD PLAYER ADJUSTMENT PROCEDURES (Continued)

KICK GAIN ADJUSTMENT

1. Place the test disc (Modern Wave Ⅱ) on the tray and play and the pause.
2. Set the oscilloscope to "NORMAL TRIG.", and set the EXT. TRIG. pin to external trigger, and input the trigger from test terminal **THD** (CN08-1) to the oscilloscope.
3. Next connect test terminal **HF** (CN09-3) pin to Channel 1 of the oscilloscope, and connect test terminal **TE** (CN09-5) to Channel 2.
4. As this moment, adjust the Kick Gain VR (P106) so that Kick Gain pulse waveform is as shown in fig.4.

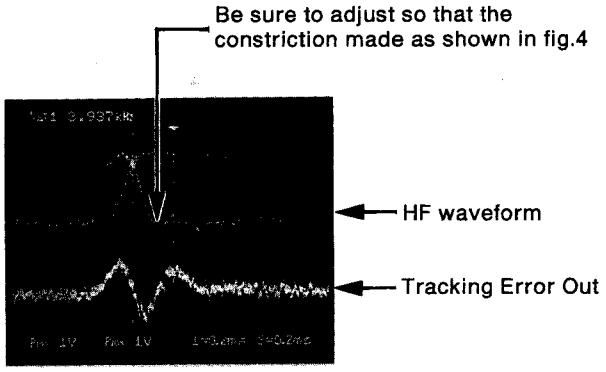


Fig.4

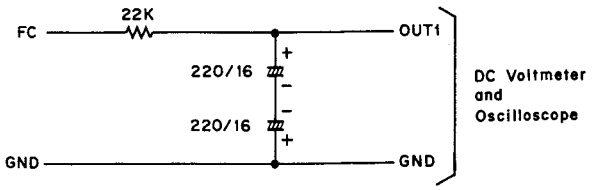
FOCUS GAIN ADJUSTMENT

1. Place the Focus Gain VR (P101) in the center position. Load the disc (Modern Wave Ⅱ) and start playback.
2. Connect the ① measurement circuit as shown in fig.2 into the **FC** terminal (CN10-3) and connect the ② measurement circuit to the **F** − (minus) terminal (CN10-4) through the 100kΩ resistor.
3. Input a signal of 1.0kHz, 1.2Vrms from the audio signal generator to the ② measurement circuit.
4. Set the oscilloscope to be the X-Y operation, and while observing the lissajous waveform adjust the Focus Gain VR (P101) to the point where the phase difference is 90° (like a circle) as shown in fig.3 above.

ADJUSTMENT OF TURNTABLE HEIGHT

This adjustment must be performed when the Spindle Motor is replaced.

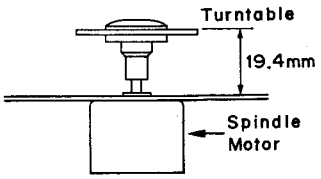
1. Load the disc (Modern Wave Ⅱ) and play the track number 1.
   Connect the oscilloscope and oscilloscope into the **FC** terminal (CN10-3) through the low-pass filter as shown in Fig.5.



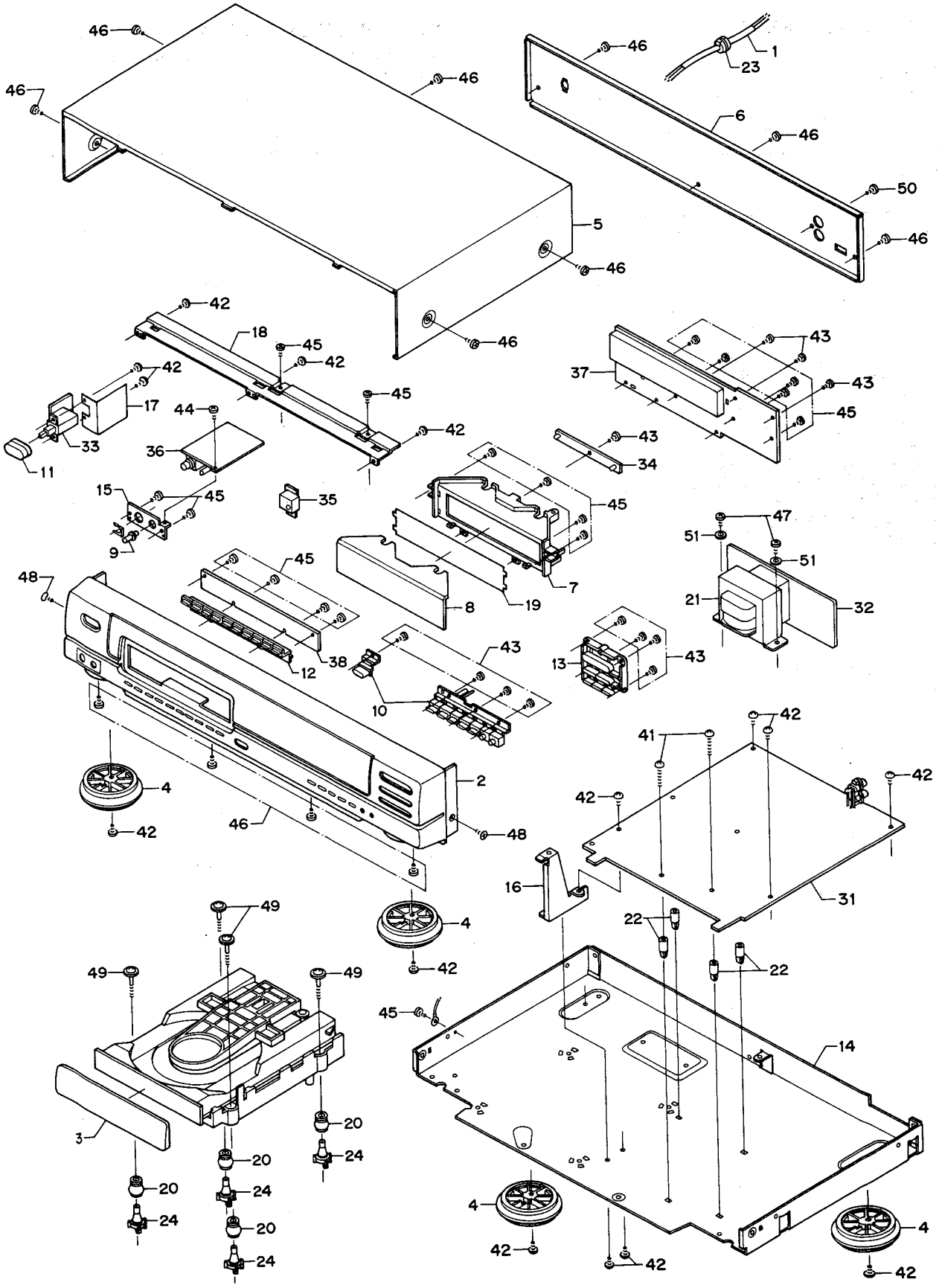
Measurement Circuit

Fig.5

2. If the voltmeter does not show under the range of:
   Inner peripheral +0.5V±0.2V
   Outer Peripheral +0.5V±0.35V readjust the height of the turntable. Raise the turntable when the voltmeter indicates + (plus), and when − (minus), lower it. (The amount of shift has capacity of about 1.4mm~1.85mm at the rate of 1V.)



CABINET & CHASSIS EXPLODED VIEW



CABINET & CHASSIS PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	620 211 1667	Inner Carton	1
	620 210 6076	Pad,Left	1
	620 210 6083	Pad,Right	1
	620 211 4286	Label,Barcode	1
	620 059 6596	Patching Sheet	1
	620 148 8012	Sheet Polyethylene	1
	614 188 3793	Inspection Sheet	1
ACCESSORIES			
	620 017 7955	Connector 4P Assy	1
	620 037 3500	RCA Cord 1000mm Black	1
or	620 021 7408	RCA Cord 1000mm Black	1
	620 211 1360	Instruction Manual	1
	614 188 3298	Guarantee Card	1
	614 188 3793	Inspection Sheet	1
	620 057 8783	Bag Fan	1
	620 211 3340	Opto Connector,DIG I/O	1
	620 211 3364	Remocon,RAD-9060	1
CABINET			
	614 224 3695	Label Safety	1
	614 231 6832	Label Safety	1
	620 211 2572	Adhesive Sheet	1
	620 125 8424	Wire Band	8
	614 188 3793	Inspection Sheet	1
	614 191 3698	Label	1
	620 210 2986	Assy,Connector-S,4P [CN15W]	1
	620 210 3006	Assy,Connector-S,3P [CN16W]	1
1	⚠ 614 023 3384	Power Cord	1
or	⚠ 614 023 3100	Power Cord	1
2	620 211 1643	Assy,Cabinet,Front	1
3	620 211 1650	Assy,Panel,Tray	1
4	620 198 6969	Assy,Foot	4
5	620 198 0639	Cover	1
6	620 209 9019	Panel,Rear	1
7	620 198 0585	Panel,Meter	1
8	620 198 0578	Window,Meter	1
9	620 198 0615	Knob,Rotary,Volume	1
10	620 198 0554	Button,Mode	1
11	620 198 0622	Button,Power	1
12	620 209 9002	Button,10 Key	1
13	620 210 8377	Button,Select	1
14	620 198 0646	Chassis,Main	1
15	620 198 0677	Bracket-E,Headphone	1
16	620 198 0660	Support,Front	1
17	620 211 1407	Shield,Power,Switch	1
18	620 198 0684	Reinforcement,Front	1
19	620 198 7201	Filter	1
20	620 209 4816	Cushion,Rubber	4
21	⚠ 620 210 1590	Power Trans	1
22	620 050 4409	Mount P.C.B	4
23	620 053 2129	Bushing (Power Cord)	1
or	620 053 2136	Bushing (Power Cord)	1
24	620 115 4375	Holder Mecha	4
31	620 211 2022	Assy,PCB,Main	1
32	620 210 2016	Assy,PCB,Trans	1
33	620 210 2023	Assy,PCB,Switch,Power	1
34	620 210 2030	Assy,PCB,Lamp	1
35	620 210 2047	Assy,PCB,Remocon 1	1
36	620 210 2054	Assy,PCB,Headphone	1
37	620 211 2008	Assy,PCB,Display	1
38	620 210 2078	Assy,PCB,Ten Key	1

Ref. No.	Part No.	Description	Q'ty
41	411 020 7007	SCR S-TPG BRZ 3X20	2
42	411 020 8004	SCR S-TPG BRZ 3X8	15
43	411 021 1202	SCR S-TPG BIN 2X8	12
44	411 021 2704	SCR S-TPG BIN 2.6X6	1
45	411 021 3107	SCR S-TPG BIN 2.6X8	18
46	411 021 6603	SCR S-TPG BIN 3X8	12
47	411 021 9109	SCR S-TPG BIN 4X6	2
48	411 022 4608	SCR S-TPG FLT 3X8	2
49	412 024 6300	SPECIAL SCREW	4
50	412 034 8509	SPECIAL SCREW	1
51	411 086 5801	WASHER SPR 4	2

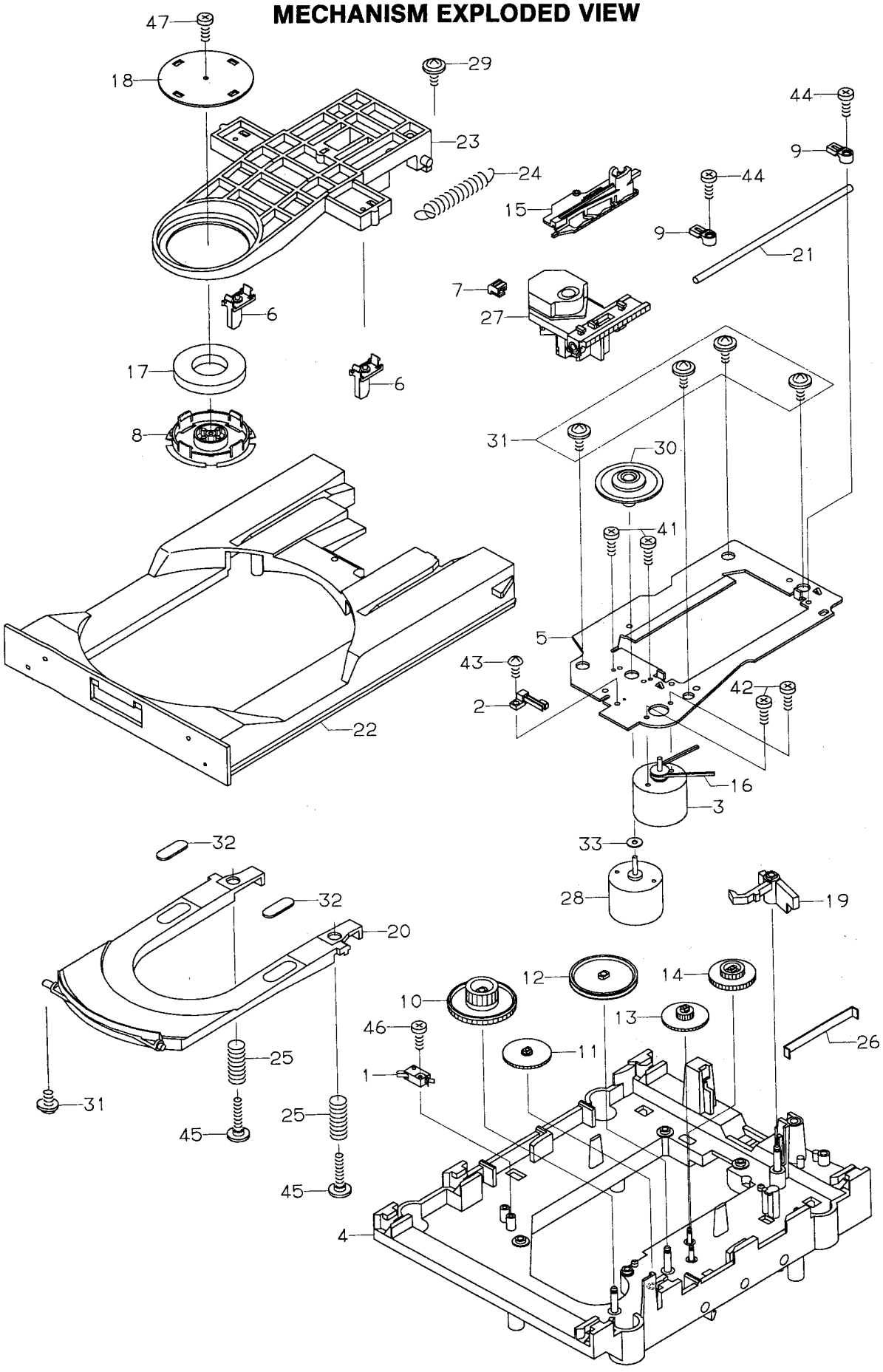
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

MECHANISM EXPLODED VIEW



MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty
MECHANISM			
	620 125 8424	Wire Band	4
	620 210 2610	Assy,Connector-S,8P [CN1W]	1
	620 210 2603	Assy,Connector-S,8P [CN2W]	1
	620 210 2627	Assy,Connector-S,9P [CN3W]	1
1	614 018 9223	Switch	1
2	620 015 8633	Leaf Switch	1
3	614 231 9727	Assy,Motor	1
4	620 209 5783	Assy,Chassis,Load	1
5	620 209 5110	Chassis,CD Unit	1
6	620 209 4922	Guide,Flap	2
7	620 209 4946	Guide,Pick	1
8	620 205 4513	Holder,Disc	1
9	620 210 1095	Fixer,Shaft Pickup	2
10	620 209 4830	Gear,Pinion Table	1
11	620 209 4847	Gear,Load Table	1
12	620 209 4854	Gear,Pulley	1
13	620 209 4861	Gear,Load Pick	1
14	620 209 4878	Gear,Pinion Pick	1
15	620 209 5066	Gear,Rack	1
16	620 209 4823	Belt,Square	1
17	620 205 4070	Magnet,Disc Clamp	1
18	620 205 4094	Yoke,Magnet	1
19	620 209 5165	Arm,Change	1
20	620 209 5080	Lifter,CD Table	1
21	620 209 5042	Shaft,Slide,Pick	1
22	620 209 5127	Table,Loading	1
23	620 209 5318	Flap,Disc Clamp	1
24	620 209 4977	Spring,Tens,Flap	1
25	620 209 4984	Spring,Comp,Table	2
26	620 209 4953	Spring,Plate	1
27	620 209 6452	Pickup,Laser	1
28	620 211 4477	Motor,2V,Spindle	1
29	620 051 4316	Screw 3X10	1
30	620 082 7478	Turntable Assy	1
31	620 123 0772	Screw Washer 2.6X6	5
32	620 184 9905	Pad Disc (Felt)	2
33	620 125 1487	Washer M1.9X7.0X0.25	1
41	411 099 0701	SCR PAN PCS 1.7X3	2
42	411 146 5307	SCR PAN PCS 2X2.5	2
43	411 107 6404	SCR S-TPG PAN 2.6X6	1
44	412 042 0007	SPECIAL SCREW	2
45	412 040 0405	SPECIAL SCREW	2
46	411 104 6605	SCR TPG PAN 1.7X10	1
47	411 021 0304	SCR S-TPG BIN 2X4	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
ASSY,PCB,MAIN			
31	620 211 2022	Assy,PCB,Main	1
	620 190 1092	Pin Jack 2P WH/RED	1
	620 211 1704	Heat Sink	1
	620 211 6099	Converter,E/O,PLT102	1
or	620 196 1607	Converter,E/O,TOTX-174	1
CN1	620 021 8405	Plug 8P	1
CN2	620 021 8863	Plug 8P	1
CN3	620 021 9976	Plug 9P	1
CN4	620 021 6555	Plug 4P	1
CN5	620 021 8337	Plug 6P	1
CN6P	620 210 5758	Plug,BTMK,15P	1
CN7P	620 210 5758	Plug,BTMK,15P	1
CN8	620 021 4025	Plug 3P	1
CN9	620 021 3950	Plug 6P	1
CN10	620 021 4346	Plug 4P	1
CN11P	620 210 5765	Plug,BTMK,8P	1
CN13	620 021 8313	Plug 3P	1
CN14	620 021 8306	Plug 2P	1
CN15	620 021 8597	Plug 4P	1
CN16	620 021 5923	Plug 3P	1
P101	620 006 1360	Potentiometer 22KB	1
P102	620 006 1360	Potentiometer 22KB	1
P103	620 006 1353	Potentiometer 100KB	1
P104	620 006 1360	Potentiometer 22KB	1
P105	620 006 1360	Potentiometer 22KB	1
P106	620 006 1353	Potentiometer 100KB	1
RB101	620 190 4062	Resistor 10X10K	1
RB102	620 190 4062	Resistor 10X10K	1
T101	620 212 0782	OSC Coil	1
or	620 028 8774	OSC Coil	1
or	620 028 8699	OSC Coil	1
X101	620 189 5117	Ceramic OSC 6MHz	1
X102	620 007 3288	Crystal 16.9344MHz	1
X601	620 007 3417	Ceramic OSC CSB 455E	1
or	620 007 3301	Ceramic KBR-455BT	1
IC101	409 124 6507	IC LA9200NM	1
IC102	409 202 5804	IC LC7860K	1
IC103	409 123 7109	IC LC3517BS-15	1
IC104	409 057 4601	IC UPC4570HA	1
or	409 018 5104	IC LA6458SS	1
IC105	409 136 9206	IC FA5205P	1
IC106	409 203 8507	IC M50954-125SP	1
IC107	409 204 0609	IC YM3613C	1
IC108	409 242 8704	IC SM5840CP	1
IC109	409 242 8803	IC PCM67P	1
IC110	409 057 4601	IC UPC4570HA	1
or	409 018 5104	IC LA6458SS	1
IC111	409 057 4601	IC UPC4570HA	1
or	409 018 5104	IC LA6458SS	1
IC112	409 169 7804	IC NJM78M05FA	1
IC113	409 183 1802	IC NJM78M06FA	1
IC114	409 136 9503	IC TA79L006P	1
IC501	409 039 6609	IC NJM2904M-T2	1
IC601	409 089 1609	IC LC7462M-8172	1
Q101	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
or	405 019 2708	TR 2SC536-F-NP-AA	1
or	405 019 3804	TR 2SC536-G-NP-AA	1
Q102	405 021 0600	TR 2SD1012-G-SPA-AC	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1
Q103	405 004 4601	TR 2SA608-F-SPA-AC	1
or	405 004 5103	TR 2SA608-G-SPA-AC	1
or	405 004 4502	TR 2SA608-F-NP-AA	1
or	405 004 5004	TR 2SA608-G-NP-AA	1
Q105	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
or	405 019 2708	TR 2SC536-F-NP-AA	1
or	405 019 3804	TR 2SC536-G-NP-AA	1
Q107	405 021 0600	TR 2SD1012-G-SPA-AC	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1
Q108	405 021 0600	TR 2SD1012-G-SPA-AC	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1
Q109	405 004 4601	TR 2SA608-F-SPA-AC	1
or	405 004 5103	TR 2SA608-G-SPA-AC	1
or	405 004 4502	TR 2SA608-F-NP-AA	1
or	405 004 5004	TR 2SA608-G-NP-AA	1
Q110	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
or	405 019 2708	TR 2SC536-F-NP-AA	1
or	405 019 3804	TR 2SC536-G-NP-AA	1
Q111	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
or	405 019 2708	TR 2SC536-F-NP-AA	1
or	405 019 3804	TR 2SC536-G-NP-AA	1
Q112	405 018 2600	TR 2SC3400-AC	1
Q501	405 004 4601	TR 2SA608-F-SPA-AC	1
or	405 004 5103	TR 2SA608-G-SPA-AC	1
or	405 004 4502	TR 2SA608-F-NP-AA	1
or	405 004 5004	TR 2SA608-G-NP-AA	1
Q601	405 021 0600	TR 2SD1012-G-SPA-AC	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1
Q602	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
or	405 019 2708	TR 2SC536-F-NP-AA	1
or	405 019 3804	TR 2SC536-G-NP-AA	1
Q603	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
or	405 019 2708	TR 2SC536-F-NP-AA	1
or	405 019 3804	TR 2SC536-G-NP-AA	1
Q604	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
or	405 019 2708	TR 2SC536-F-NP-AA	1
or	405 019 3804	TR 2SC536-G-NP-AA	1
Q605	405 018 2600	TR 2SC3400-AC	1
D101	407 000 3503	VARACTOR DI SVC211SP	1
D102	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D103	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D104	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D105	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D106	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D107	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D108	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D109	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D111	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D112	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D113	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D114	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D115	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D116	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D117	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D118	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D119	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D120	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D121	407 051 7307	ZENER DIODE GZS6.2Z-BT	1
D122	407 051 5303	ZENER DIODE GZS24Z-BT	1
D123	407 051 6904	ZENER DIODE GZS5.6Y-BT	1
D124	407 140 7201	DIODE DSR10C-ET5	1
or	407 005 8602	DIODE ERA15-02	1
D125	407 140 7201	DIODE DSR10C-ET5	1
or	407 005 8602	DIODE ERA15-02	1
D126	407 140 7201	DIODE DSR10C-ET5	1
or	407 005 8602	DIODE ERA15-02	1
D127	407 140 7201	DIODE DSR10C-ET5	1
or	407 005 8602	DIODE ERA15-02	1
D128	407 140 7201	DIODE DSR10C-ET5	1
or	407 005 8602	DIODE ERA15-02	1
D129	407 140 7201	DIODE DSR10C-ET5	1
or	407 005 8602	DIODE ERA15-02	1
D130	407 140 7201	DIODE DSR10C-ET5	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
or	407 005 8602	DIODE ERA15-02				1
D131	407 133 2206	DIODE WG4148				1
or	407 008 0405	DIODE GMB01-BT				1
D132	407 133 2206	DIODE WG4148				1
or	407 008 0405	DIODE GMB01-BT				1
D601	407 133 2206	DIODE WG4148				1
or	407 008 0405	DIODE GMB01-BT				1
D602	407 133 2206	DIODE WG4148				1
or	407 008 0405	DIODE GMB01-BT				1
D603	407 133 2206	DIODE WG4148				1
or	407 008 0405	DIODE GMB01-BT				1
D604	407 133 2206	DIODE WG4148				1
or	407 008 0405	DIODE GMB01-BT				1
C101	403 030 6309	CERAMIC	68P	J	50V	1
C102	403 030 6309	CERAMIC	68P	J	50V	1
C103	403 071 2001	CERAMIC	180P	K	50V	1
C104	403 048 7701	ELECT	0.47U	M	50V	1
C105	403 168 6103	MT-POLYEST	0.1U	J	50V	1
C106	403 058 3601	POLYESTER	0.015U	K	50V	1
C108	403 050 3708	ELECT	22U	M	50V	1
C109	403 069 1207	CERAMIC	1000P	K	50V	1
C110	403 071 6207	CERAMIC	220P	K	50V	1
C111	403 121 9509	CERAMIC	0.1U	Z	50V	1
C112	403 022 7703	CERAMIC	33P	J	50V	1
C113	403 022 7703	CERAMIC	33P	J	50V	1
C114	403 001 1906	CERAMIC	0.01U	M	16V	1
C115	403 069 1207	CERAMIC	1000P	K	50V	1
C116	403 175 1009	MT-POLYEST	0.15U	J	50V	1
C117	403 047 1601	ELECT	4.7U	M	25V	1
C118	403 175 1009	MT-POLYEST	0.15U	J	50V	1
C119	403 071 6207	CERAMIC	220P	K	50V	1
C120	403 009 1809	CERAMIC	10P	J	50V	1
C121	403 121 9509	CERAMIC	0.1U	Z	50V	1
C122	403 086 2706	NP-ELECT	1U	M	50V	1
C123	403 086 2706	NP-ELECT	1U	M	50V	1
C124	403 049 1708	ELECT	1U	M	50V	1
C125	403 049 1708	ELECT	1U	M	50V	1
C126	403 069 1207	CERAMIC	1000P	K	50V	1
C127	403 086 2706	NP-ELECT	1U	M	50V	1
C128	403 002 6207	CERAMIC	0.012U	K	25V	1
C129	403 002 6207	CERAMIC	0.012U	K	25V	1
C130	403 001 5102	CERAMIC	2200P	M	16V	1
C131	403 001 5102	CERAMIC	2200P	M	16V	1
C132	403 086 2706	NP-ELECT	1U	M	50V	1
C133	403 086 2706	NP-ELECT	1U	M	50V	1
C134	403 049 5508	ELECT	10U	M	50V	1
C135	403 049 5508	ELECT	10U	M	50V	1
C136	403 016 2004	CERAMIC	2.2P	K	50V	1
C137	403 009 1809	CERAMIC	10P	J	50V	1
C138	403 003 8705	CERAMIC	0.039U	K	25V	1
C139	403 071 6207	CERAMIC	220P	K	50V	1
C140	403 080 5208	POLYPRO	1000P	J	100V	1
C141	403 001 1906	CERAMIC	0.01U	M	16V	1
C142	403 121 9509	CERAMIC	0.1U	Z	50V	1
C143	403 149 7105	POLYPRO	680P	J	100V	1
C144	403 121 9509	CERAMIC	0.1U	Z	50V	1
C145	403 003 6701	CERAMIC	0.033U	K	25V	1
C146	403 009 1809	CERAMIC	10P	J	50V	1
C147	403 121 9509	CERAMIC	0.1U	Z	50V	1
C148	403 001 1906	CERAMIC	0.01U	M	16V	1
C149	403 001 1906	CERAMIC	0.01U	M	16V	1
C150	403 049 5508	ELECT	10U	M	50V	1
C151	403 042 3600	ELECT	100U	M	16V	1
C152	403 042 3600	ELECT	100U	M	16V	1
C153	403 069 1207	CERAMIC	1000P	K	50V	1
C154	403 121 9509	CERAMIC	0.1U	Z	50V	1
C155	403 039 3002	ELECT	47U	M	6.3V	1
C156	403 001 1906	CERAMIC	0.01U	M	16V	1
C157	403 121 9509	CERAMIC	0.1U	Z	50V	1
C158	403 039 3002	ELECT	47U	M	6.3V	1
C159	403 069 1207	CERAMIC	1000P	K	50V	1
C160	403 003 3700	CERAMIC	0.022U	Z	25V	1
C161	403 001 1906	CERAMIC	0.01U	M	16V	1
C162	403 121 9509	CERAMIC	0.1U	Z	50V	1
C163	403 073 7004	CERAMIC	470P	K	50V	1
C164	403 073 7004	CERAMIC	470P	K	50V	1
C165	403 073 7004	CERAMIC	470P	K	50V	1
C166	403 073 7004	CERAMIC	470P	K	50V	1
C167	403 049 5508	ELECT	10U	M	50V	1

Ref. No.	Part No.	Description				Q'ty
C168	403 049 1708	ELECT	1U	M	50V	1
C169	403 028 3402	CERAMIC	56P	J	50V	1
C170	403 059 6502	POLYESTER	0.022U	K	50V	1
C171	403 185 0504	MT-POLYEST	1U	J	50V	1
C172	403 001 1906	CERAMIC	0.01U	M	16V	1
C173	403 049 5508	ELECT	10U	M	50V	1
C174	403 010 7807	CERAMIC	12P	J	50V	1
C175	403 010 7807	CERAMIC	12P	J	50V	1
C176	403 010 7807	CERAMIC	12P	J	50V	1
C177	403 001 1906	CERAMIC	0.01U	M	16V	1
C178	403 121 9509	CERAMIC	0.1U	Z	50V	1
C179	403 049 5508	ELECT	10U	M	50V	1
C181	403 038 7209	ELECT	220U	M	6.3V	1
C182	403 038 2402	ELECT	100U	M	6.3V	1
C183	403 038 2402	ELECT	100U	M	6.3V	1
C184	403 038 2402	ELECT	100U	M	6.3V	1
C185	403 038 2402	ELECT	100U	M	6.3V	1
C186	403 039 3002	ELECT	47U	M	6.3V	1
C187	403 039 3002	ELECT	47U	M	6.3V	1
C188	403 050 3708	ELECT	22U	M	50V	1
C189	403 050 3708	ELECT	22U	M	50V	1
C190	403 069 1207	CERAMIC	1000P	K	50V	1
C191	403 069 1207	CERAMIC	1000P	K	50V	1
C192	403 057 0809	POLYESTER	0.01U	K	50V	1
C193	403 057 0809	POLYESTER	0.01U	K	50V	1
C194	403 058 1508	POLYESTER	1500P	K	50V	1
C195	403 058 1508	POLYESTER	1500P	K	50V	1
C196	403 085 6408	NP-ELECT	4.7U	M	16V	1
C197	403 085 6408	NP-ELECT	4.7U	M	16V	1
C198	403 001 1906	CERAMIC	0.01U	M	16V	1
C199	403 039 3002	ELECT	47U	M	6.3V	1
C200	403 001 1906	CERAMIC	0.01U	M	16V	1
C201	403 039 3002	ELECT	47U	M	6.3V	1
C202	403 073 7004	CERAMIC	470P	K	50V	1
C203	403 073 7004	CERAMIC	470P	K	50V	1
C204	403 069 1207	CERAMIC	1000P	K	50V	1
C205	403 001 1906	CERAMIC	0.01U	M	16V	1
C206	403 038 7209	ELECT	220U	M	6.3V	1
C207	403 049 5508	ELECT	10U	M	50V	1
C208	403 050 1308	ELECT	2.2U	M	50V	1
C209	403 049 5508	ELECT	10U	M	50V	1
C210	403 001 1906	CERAMIC	0.01U	M	16V	1
C211	403 001 1906	CERAMIC	0.01U	M	16V	1
C212	403 001 1906	CERAMIC	0.01U	M	16V	1
C213	403 168 6103	MT-POLYEST	0.1U	J	50V	1
C214	403 049 1708	ELECT	1U	M	50V	1
C215	403 168 6103	MT-POLYEST	0.1U	J	50V	1
C216	403 168 6103	MT-POLYEST	0.1U	J	50V	1
C217	403 043 3104	ELECT	2200U	M	16V	1
C218	403 043 3104	ELECT	2200U	M	16V	1
C219	403 072 2703	CERAMIC	0.022U	Z	50V	1
C220	403 072 2703	CERAMIC	0.022U	Z	50V	1
C221	403 054 1304	ELECT	47U	M	35V	1
C222	403 049 5508	ELECT	10U	M	50V	1
C223	403 054 1304	ELECT	47U	M	35V	1
C224	403 072 2703	CERAMIC	0.022U	Z	50V	1
C225	403 069 1207	CERAMIC	1000P	K	50V	1
C226	403 121 9509	CERAMIC	0.1U	Z	50V	1
C227	403 121 9509	CERAMIC	0.1U	Z	50V	1
C228	403 072 2703	CERAMIC	0.022U	Z	50V	1
C601	403 068 9402	CERAMIC	100P	K	50V	1
C602	403 068 9402	CERAMIC	100P	K	50V	1
C603	403 069 1207	CERAMIC	1000P	K	50V	1
C604	403 168 6103	MT-POLYEST	0.1U	J	50V	1
C605	403 039 3002	ELECT	47U	M	6.3V	1
C606	403 086 2706	NP-ELECT	1U	M	50V	1
C607	403 049 1708	ELECT	1U	M	50V	1
R101	401 027 9005	CARBON	82K	JA	1/6W	1
R102	401 027 9005	CARBON	82K	JA	1/6W	1
R103	401 027 5908	CARBON	68K	JA	1/6W	1
R104	401 024 8001	CARBON	1M	JA	1/6W	1
R105	401 024 7400	CARBON	10K	JA	1/6W	1
R106	401 024 7707	CARBON	100K	JA	1/6W	1
R107	401 025 4903	CARBON	180K	JA	1/6W	1
R108	401 026 4308	CARBON	3.3K	JA	1/6W	1
R109	401 025 4903	CARBON	180K	JA	1/6W	1
R111	401 025 4606	CARBON	18K	JA	1/6W	1
R112	401 024 7707	CARBON	100K	JA	1/6W	1
R113	401 024 8001	CARBON	1M	JA	1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R114	401 026 1604	CARBON 270K JA 1/6W	1
R115	401 024 7707	CARBON 100K JA 1/6W	1
R116	401 021 1906	CARBON 560 JA 1/4W	1
R118	401 016 4806	CARBON 22K JA 1/4W	1
R119	401 016 4806	CARBON 22K JA 1/4W	1
R120	401 026 1307	CARBON 27K JA 1/6W	1
R121	401 024 7400	CARBON 10K JA 1/6W	1
R122	401 024 6403	CARBON 10 JA 1/6W	1
R123	401 025 2305	CARBON 150K JA 1/6W	1
R124	401 024 7707	CARBON 100K JA 1/6W	1
R125	401 025 7805	CARBON 2.2K JA 1/6W	1
R126	401 026 0607	CARBON 270 JA 1/6W	1
R128	401 026 7408	CARBON 39K JA 1/6W	1
R129	401 025 1902	CARBON 15K JA 1/6W	1
R130	401 025 1902	CARBON 15K JA 1/6W	1
R131	401 026 1307	CARBON 27K JA 1/6W	1
R132	401 025 8703	CARBON 220K JA 1/6W	1
R133	401 025 8703	CARBON 220K JA 1/6W	1
R134	401 026 1604	CARBON 270K JA 1/6W	1
R135	401 026 1307	CARBON 27K JA 1/6W	1
R136	401 024 6403	CARBON 10 JA 1/6W	1
R137	401 016 4806	CARBON 22K JA 1/4W	1
R138	401 025 8208	CARBON 22K JA 1/6W	1
R139	401 027 9005	CARBON 82K JA 1/6W	1
R140	401 026 1604	CARBON 270K JA 1/6W	1
R141	401 025 0004	CARBON 120K JA 1/6W	1
R142	401 025 0004	CARBON 120K JA 1/6W	1
R143	401 027 0309	CARBON 47K JA 1/6W	1
R144	401 027 5908	CARBON 68K JA 1/6W	1
R145	401 026 4605	CARBON 33K JA 1/6W	1
R146	401 026 4605	CARBON 33K JA 1/6W	1
R147	401 020 2904	CARBON 47K JA 1/4W	1
R148	401 020 2904	CARBON 47K JA 1/4W	1
R149	401 024 9701	CARBON 12K JA 1/6W	1
R150	401 025 4200	CARBON 1.8K JA 1/6W	1
R151	401 025 3807	CARBON 180 JA 1/6W	1
R152	401 024 9701	CARBON 12K JA 1/6W	1
R153	401 024 5604	CARBON 1 JA 1/6W	1
R154	401 026 2106	CARBON 3.3 JA 1/6W	1
R155	401 012 8105	CARBON 100K JA 1/4W	1
R156	401 012 8105	CARBON 100K JA 1/4W	1
R157	401 020 3901	CARBON 470K JA 1/4W	1
R158	401 020 3901	CARBON 470K JA 1/4W	1
R159	401 027 3003	CARBON 56K JA 1/6W	1
R160	401 027 0309	CARBON 47K JA 1/6W	1
R161	401 024 7400	CARBON 10K JA 1/6W	1
R162	401 027 5205	CARBON 680 JA 1/6W	1
R163	401 025 5405	CARBON 2.2 JA 1/6W	1
R164	401 025 8208	CARBON 22K JA 1/6W	1
R165	401 025 1902	CARBON 15K JA 1/6W	1
R166	401 012 7009	CARBON 10K JA 1/4W	1
R167	401 027 2600	CARBON 5.6K JA 1/6W	1
R168	401 026 9907	CARBON 4.7K JA 1/6W	1
R169	401 016 2604	CARBON 220 JA 1/4W	1
R170	401 026 9907	CARBON 4.7K JA 1/6W	1
R171	401 026 4308	CARBON 3.3K JA 1/6W	1
R172	401 025 7409	CARBON 220 JA 1/6W	1
R173	401 025 8208	CARBON 22K JA 1/6W	1
R174	401 024 7004	CARBON 1K JA 1/6W	1
R175	401 025 7805	CARBON 2.2K JA 1/6W	1
R176	401 027 9005	CARBON 82K JA 1/6W	1
R177	401 025 8208	CARBON 22K JA 1/6W	1
R178	401 025 8208	CARBON 22K JA 1/6W	1
R179	401 024 7707	CARBON 100K JA 1/6W	1
R180	401 024 7707	CARBON 100K JA 1/6W	1
R181	401 024 7400	CARBON 10K JA 1/6W	1
R182	401 020 2904	CARBON 47K JA 1/4W	1
R183	401 012 7009	CARBON 10K JA 1/4W	1
R184	401 024 7004	CARBON 1K JA 1/6W	1
R185	401 025 5405	CARBON 2.2 JA 1/6W	1
R186	401 025 5405	CARBON 2.2 JA 1/6W	1
R187	401 027 1801	CARBON 51K JA 1/6W	1
R188	401 027 1801	CARBON 51K JA 1/6W	1
R189	401 025 4903	CARBON 180K JA 1/6W	1
R190	401 025 4903	CARBON 180K JA 1/6W	1
R191	401 026 1000	CARBON 2.7K JA 1/6W	1
R192	401 027 0309	CARBON 47K JA 1/6W	1
R193	401 025 1605	CARBON 1.5K JA 1/6W	1
R197	401 024 8001	CARBON 1M JA 1/6W	1
R198	401 016 3809	CARBON 2.2K JA 1/4W	1
R199	401 025 8208	CARBON 22K JA 1/6W	1
R200	401 025 8208	CARBON 22K JA 1/6W	1
R201	401 025 8208	CARBON 22K JA 1/6W	1
R202	401 025 8208	CARBON 22K JA 1/6W	1
R203	401 027 5908	CARBON 68K JA 1/6W	1
R204	401 024 7400	CARBON 10K JA 1/6W	1
R205	401 024 8001	CARBON 1M JA 1/6W	1
R206	401 016 2604	CARBON 220 JA 1/4W	1
R207	401 025 3807	CARBON 180 JA 1/6W	1
R208	401 027 2303	CARBON 560 JA 1/6W	1
R209	401 027 2303	CARBON 560 JA 1/6W	1
R210	401 027 2303	CARBON 560 JA 1/6W	1
R211	401 027 2303	CARBON 560 JA 1/6W	1
R212	401 027 2303	CARBON 560 JA 1/6W	1
R213	401 027 2303	CARBON 560 JA 1/6W	1
R215	401 021 1906	CARBON 560 JA 1/4W	1
R216	401 016 2604	CARBON 220 JA 1/4W	1
R217	401 027 2303	CARBON 560 JA 1/6W	1
R218	401 027 2303	CARBON 560 JA 1/6W	1
R219	401 027 2303	CARBON 560 JA 1/6W	1
R220	401 025 7409	CARBON 220 JA 1/6W	1
R221	401 025 7409	CARBON 220 JA 1/6W	1
R222	401 025 7409	CARBON 220 JA 1/6W	1
R223	401 025 7409	CARBON 220 JA 1/6W	1
R224	401 025 7409	CARBON 220 JA 1/6W	1
R225	401 026 0607	CARBON 270 JA 1/6W	1
R226	401 024 9305	CARBON 1.2K JA 1/6W	1
R227	401 024 9305	CARBON 1.2K JA 1/6W	1
R228	401 024 6700	CARBON 100 JA 1/6W	1
R229	401 024 6700	CARBON 100 JA 1/6W	1
R230	401 024 7004	CARBON 1K JA 1/6W	1
R231	401 024 7004	CARBON 1K JA 1/6W	1
R232	401 026 4308	CARBON 3.3K JA 1/6W	1
R233	401 026 4308	CARBON 3.3K JA 1/6W	1
R238	401 025 0608	CARBON 1.3K JA 1/6W	1
R239	401 025 0608	CARBON 1.3K JA 1/6W	1
R240	401 025 4200	CARBON 1.8K JA 1/6W	1
R241	401 025 4200	CARBON 1.8K JA 1/6W	1
R242	401 027 8305	CARBON 820 JA 1/6W	1
R243	401 027 8305	CARBON 820 JA 1/6W	1
R244	401 024 7004	CARBON 1K JA 1/6W	1
R245	401 024 7004	CARBON 1K JA 1/6W	1
R246	401 024 7707	CARBON 100K JA 1/6W	1
R247	401 024 7707	CARBON 100K JA 1/6W	1
R248	401 025 7805	CARBON 2.2K JA 1/6W	1
R249	401 025 7805	CARBON 2.2K JA 1/6W	1
R250	401 027 0309	CARBON 47K JA 1/6W	1
R253	401 027 5205	CARBON 680 JA 1/6W	1
R254	401 025 0004	CARBON 120K JA 1/6W	1
R255	401 026 4605	CARBON 33K JA 1/6W	1
R256	401 022 4104	CARBON 68K JA 1/4W	1
R257	401 024 7400	CARBON 10K JA 1/6W	1
R258	401 024 7400	CARBON 10K JA 1/6W	1
R259	401 027 8602	CARBON 8.2K JA 1/6W	1
R260	401 025 8208	CARBON 22K JA 1/6W	1
R261	402 016 4506	FUSIBLE RES 10 J- 1/2W	1
R263	402 016 4506	FUSIBLE RES 10 J- 1/2W	1
R264	402 016 4506	FUSIBLE RES 10 J- 1/2W	1
R265	401 026 3905	CARBON 330 JA 1/6W	1
R266	401 024 7400	CARBON 10K JA 1/6W	1
R267	402 039 2800	FUSIBLE RES 10 JA 1/4W	1
R268	402 039 2800	FUSIBLE RES 10 JA 1/4W	1
R501	401 055 1408	OXIDE-MT 15 JA 1/2W	1
R502	401 027 0507	CARBON 470K JA 1/6W	1
R503	401 024 7004	CARBON 1K JA 1/6W	1
R504	401 024 7400	CARBON 10K JA 1/6W	1
R505	401 026 9907	CARBON 4.7K JA 1/6W	1
R601	401 025 0004	CARBON 120K JA 1/6W	1
R602	401 027 9005	CARBON 82K JA 1/6W	1
R603	401 026 9907	CARBON 4.7K JA 1/6W	1
R604	401 027 0309	CARBON 47K JA 1/6W	1
R605	401 024 7400	CARBON 10K JA 1/6W	1
R606	401 024 7400	CARBON 10K JA 1/6W	1
R607	401 024 7004	CARBON 1K JA 1/6W	1
R608	401 024 7004	CARBON 1K JA 1/6W	1
R609	401 026 0607	CARBON 270 JA 1/6W	1
R610	401 027 5205	CARBON 680 JA 1/6W	1
R611	401 024 7400	CARBON 10K JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R613	401 027 8602	CARBON 8.2K JA 1/6W	1
R614	401 021 1906	CARBON 560 JA 1/4W	1
ASSY,PCB,TRANS			
32	620 210 2016	Assy,PCB,Trans	1
	620 022 2587	EC Terminal 1P	2
	⚠ 423 003 9809	FUSE 250V T0.63A	2
	620 200 0831	Assy,Connector-P,1P	2
	620 207 9158	Fuse Holder,Taping	4
CN5W	620 210 2382	Assy,Connector-S,6P	1
ASSY,PCB,SWITCH,POWER			
33	620 210 2023	Assy,PCB,Switch,Power	1
C1	⚠ 620 006 6679	Capacitor 0.01MF400V	1
S1	⚠ 620 211 8574	Switch,Push,Power	1
or	⚠ 620 015 2358	Power Switch	1
ASSY,PCB,LAMP			
34	620 210 2030	Assy,PCB,Lamp	1
	620 030 7888	Lamp (8V 105mA)	2
CN14W	620 212 0157	Assy,Connector-P,2P	1
ASSY,PCB,REMOCON 1			
35	620 210 2047	Assy,PCB,Remocon 1	1
	620 200 0909	Converter,Remote,DET	1
CN13W	620 210 2993	Assy,Connector-S,3P	1
C701	403 071 6207	CERAMIC 220P K 50V	1
ASSY,PCB,HEADPHONE			
36	620 210 2054	Assy,PCB,Headphone	1
CN15W	620 021 8597	Plug 4P	1
CN16W	620 021 5923	Plug 3P	1
JK301	620 020 1087	Jack 3P	1
VR301	620 200 1418	VR,Rotary,2X20KA,9mm	1
W301	620 211 1940	Assy,Connector-P,Lug,1P	1
IC301	409 039 7309	IC NJM4556S	1
Q301	405 021 0600	TR 2SD1012-G-SPA-AC	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1
Q302	405 021 0600	TR 2SD1012-G-SPA-AC	1
or	405 021 0907	TR 2SD1012-H-SPA-AC	1
C301	403 086 5509	NP-ELECT 2.2U M 50V	1
C302	403 086 5509	NP-ELECT 2.2U M 50V	1
C303	403 062 0801	POLYESTER 0.047U K 50V	1
C304	403 062 0801	POLYESTER 0.047U K 50V	1
C305	403 039 3002	ELECT 47U M 6.3V	1
C306	403 039 3002	ELECT 47U M 6.3V	1
C307	403 121 9509	CERAMIC 0.1U Z 50V	1
R301	401 025 7805	CARBON 2.2K JA 1/6W	1
R302	401 025 7805	CARBON 2.2K JA 1/6W	1
R303	401 024 7004	CARBON 1K JA 1/6W	1
R304	401 024 7004	CARBON 1K JA 1/6W	1
R305	401 027 0309	CARBON 47K JA 1/6W	1
R306	401 027 0309	CARBON 47K JA 1/6W	1
R307	401 024 9701	CARBON 12K JA 1/6W	1
R308	401 024 9701	CARBON 12K JA 1/6W	1
R309	401 024 6700	CARBON 100 JA 1/6W	1
R310	401 024 6700	CARBON 100 JA 1/6W	1
R311	401 027 5502	CARBON 6.8K JA 1/6W	1
R312	401 027 5502	CARBON 6.8K JA 1/6W	1
ASSY,PCB,DISPLAY			
37	620 211 2008	Assy,PCB,Display	1
	620 200 7540	Cushion,Rubber	2
	620 198 6259	Fluorescent TUBE12BT-26GK	1
CN6	620 210 5772	Socket,BTMK,15S	1
CN7	620 210 5772	Socket,BTMK,15S	1
CN11	620 210 5789	Socket,BTMK,8S	1
CN12W	620 211 0837	Assy,Connector-S,8P	1
S401	620 202 6725	Switch,Tact,Taping (OPEN/CLOSE)	1
S402	620 202 6725	Switch,Tact,Taping (STOP)	1
S403	620 202 6725	Switch,Tact,Taping (FB)	1
S404	620 202 6725	Switch,Tact,Taping (FF)	1
S405	620 202 6725	Switch,Tact,Taping (B. INDEX)	1
S406	620 202 6725	Switch,Tact,Taping (F. INDEX)	1
S407	620 202 6725	Switch,Tact,Taping (MEMORY)	1
S408	620 202 6725	Switch,Tact,Taping (REPEAT)	1
S409	620 202 6725	Switch,Tact,Taping (DISPLAY)	1
S411	620 202 6725	Switch,Tact,Taping (EDIT)	1
S412	620 202 6725	Switch,Tact,Taping (SIDE A/B)	1
S413	620 202 6725	Switch,Tact,Taping (RANDOM PLAY)	1
S414	620 202 6725	Switch,Tact,Taping (INTRO SCAN)	1
S611	620 202 6725	Switch,Tact,Taping (PLAY)	1
S612	620 202 6725	Switch,Tact,Taping (PAUSE)	1
D401	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D402	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D403	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
D404	407 133 2206	DIODE WG4148	1
or	407 008 0405	DIODE GMB01-BT	1
ASSY,PCB,TEN KEY			
38	620 210 2078	Assy,PCB,Ten Key	1
	620 202 6725	Switch,Tact,Taping	10
CN12	620 021 8405	Plug 8P	1

NOTES:

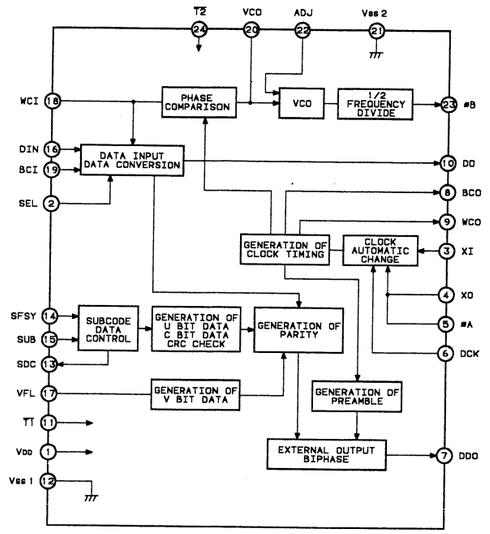
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

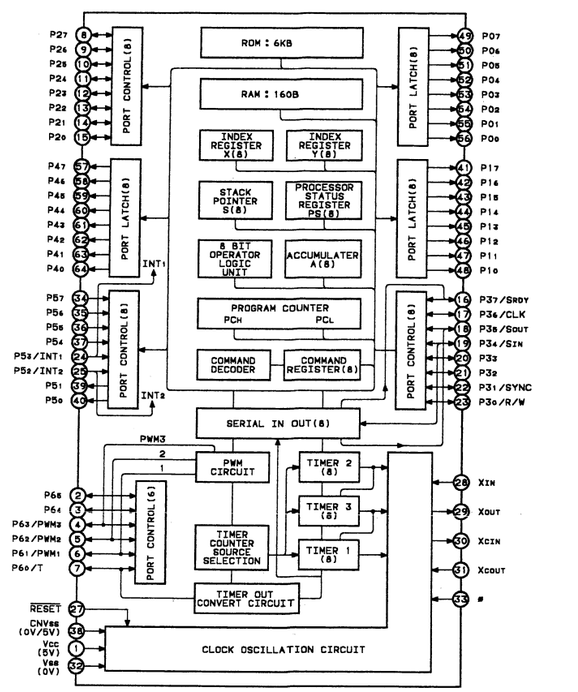
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

IC BLOCK DIAGRAM

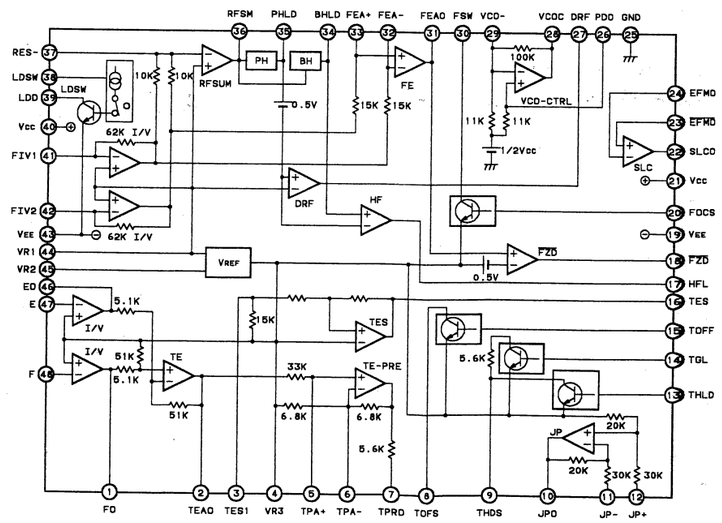
YM3613C BLOCK DIAGRAM
(Digital Interface Transmitter)



M50954-125SP BLOCK DIAGRAM
(System Control Micro Computer)

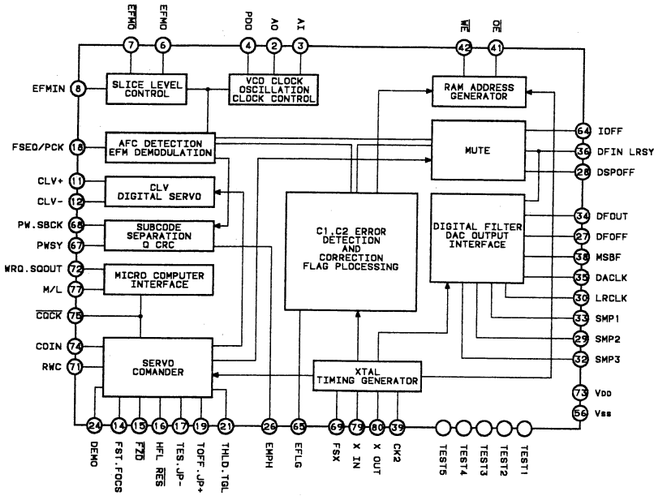


LA9200NM BLOCK DIAGRAM
(Servo Signal Processor)

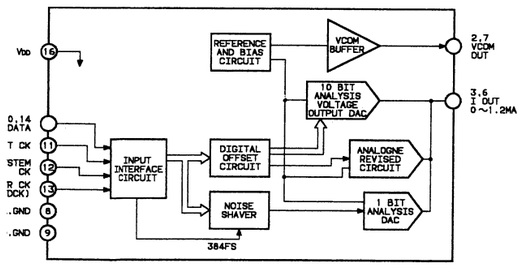


IC BLOCK DIAGRAM (Continued)

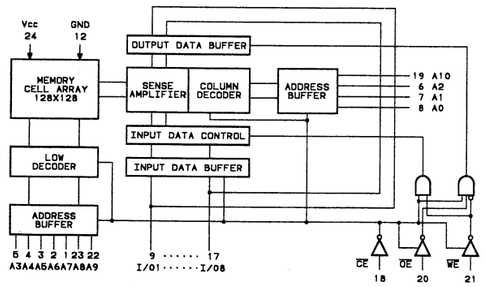
LC7860K BLOCK DIAGRAM
(Digital Signal Processor)



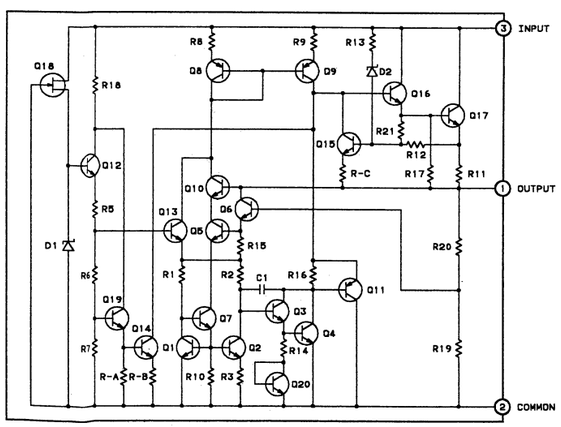
PCM67P BLOCK DIAGRAM
(D/A Converter)



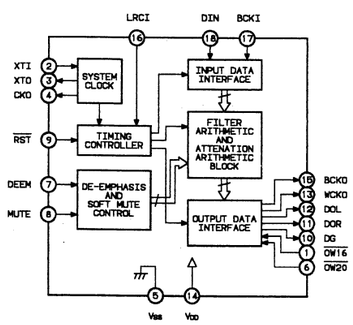
LC3517BS-15 BLOCK DIAGRAM
(Static RAM)



NJM78M05FA BLOCK DIAGRAM
(Constant Voltage Power Supply)

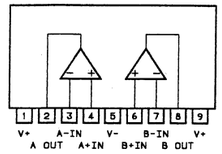


SM5840CP BLOCK DIAGRAM
(Digital Filter)

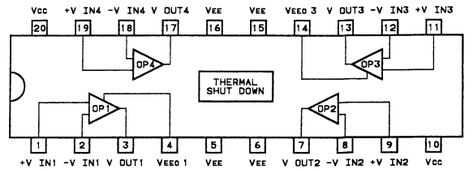


IC BLOCK DIAGRAM (Continued)

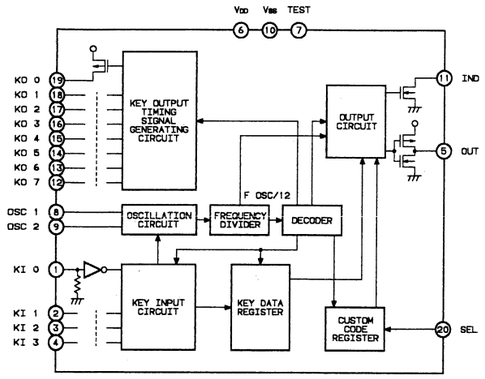
NJM4556S BLOCK DIAGRAM
UPC4570HA BLOCK DIAGRAM
(Dual Operational Amp.)



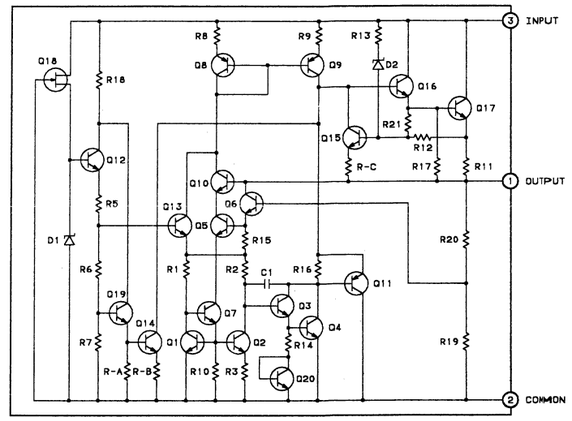
FA5205P BLOCK DIAGRAM
(FC/TC Driver & Motor Driver)



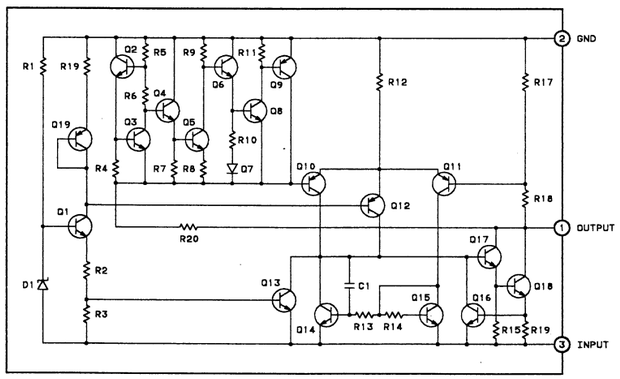
LC7462M-8172 BLOCK DIAGRAM
(Key Control Circuit)



NJM78M06FA BLOCK DIAGRAM
(Constant Voltage Power Supply)



TA79L006P BLOCK DIAGRAM
(Constant Voltage Power Supply)



REFERENCE VOLTAGE (CD Main P.C.Board Section)

MAIN P.C.BOARD

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC101	LA9200NM	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	1.2V	3.8V	0V	3.7V	0V	0V	1.7V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		4.4V	2.3V	2.1V	2.1V	0V	2.2V	0V	2.3V	2.3V	0V	0.5V	0.5V	0.5V	0V	0.4V	0.4V	0.4V	3.2V	0.4V	4.9V
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
		0V	0.4V	−0.3V	0V	0V	0V	0V	0V	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC102	LC7860K	0V	2.2V	2.2V	3.3V	0V	2.1V	1.4V	2.3V	0V	4.4V	0V	0V	0V	2.2V	3.7V	3.7V	0V	0V	0V	0V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		0V	0V	0V	0V	0V	0V	4.4V	0V	0.8V	2.2V	4.4V	1.8V	0.8V	0V	1.9V	0V	2.1V	4.4V	0V	2.1V
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
		3.0V	3.9V	2.1V	2.0V	2.0V	2.0V	2.0V	0V	1.3V	0V	0V	1.3V	1.3V	0V	0V	0V	3.0V	3.0V	2.9V	1.5V
		61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		3.0V	0V	0V	0V	2.0V	0.3V	0V	1.0V	0V	0V	0V	4.5V	4.7V	0V	4.5V	0V	0V	0V	2.0V	1.9V

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC103	LC3517BS	2.3V	2.3V	2.3V	2.3V	1.5V	1.5V	1.5V	1.5V	1.5V	1.5V	1.5V	0V	3.5V	3.4V	3.5V	1.5V	3.5V	0V	2.4V	3.4V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		4.4V	2.3V	2.4V	5.0V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC104	UPC4570HA	6.1V	0V	0V	0V	−5.9V	0V	0V	0V	6.1V	–	–	–	–	–	–	–	–	–	–	–
IC105	FA5205P0	0V	0V	−13.0V	−12.9V	−13.0V	0V	0V	0V	12.3V	0V	0V	0V	0V	−13.0V	−13.0V	−13.0V	0V	0V	0V	12.3V

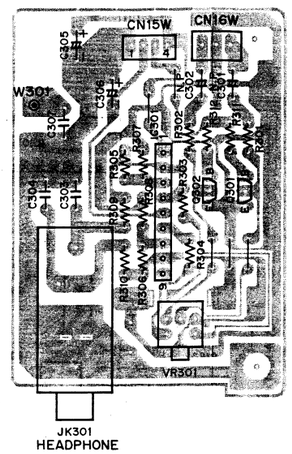
IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC106	M50954	5.0V	0V	0V	0V	0V	5.0V	0V	4.4V	5.0V	4.8V	5.0V	5.0V	4.4V	4.3V	5.0V	0V	5.0V	0V	0V	0V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		0V	0V	5.0V	5.0V	0V	0V	5.0V	2.1V	0.9V	0V	4.8V	0V	0V	0V	0V	0V	0V	−23.7V	−23.6V	−23.6V
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
		−21.4V	−21.5V	−21.4V	−21.5V	−21.4V	−21.4V	−21.4V	−21.5V	−21.5V	−21.5V	−21.5V	−21.5V	−23.5V	−23.6V	−23.6V	−15.5V	−23.6V	−7.5V	−7.6V	−7.5V
		61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
		−0.6V	−2.8V	−5.1V	−5.2V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC107	YM3613C	5.0V	0V	2.3V	2.3V	0.8V	4.9V	2.2V	2.0V	2.5V	0V	4.9V	0V	4.5V	0.2V	1.6V	0V	0V	2.4V	2.4V	1.6V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		0V	0V	0V	4.9V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

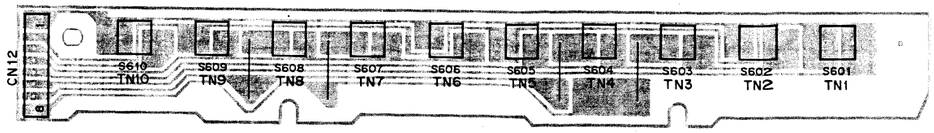
IC PIN NUMBERS DC VOLTAGES																			
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IC108	SM5840CP	5.0V	1.5V	3.4V	1.2V	0V	4.9V	5.0V	3.9V	4.9V	3.0V	0V	0V	3.6V	5.0V	0.8V	2.5V	2.2V	0V
IC109	PCM67P	5.0V	3.5V	3.5V	2.9V	4.2V	3.5V	3.5V	0V	0V	0V	1.3V	1.4V	3.6V	0V	5.0V	5.0V	–	–
IC110	UPC4570HA	6.1V	1.3V	3.5V	3.5V	−5.9V	0V	0V	0V	6.1V	–	–	–	–	–	–	–	–	–
IC111	UPC4570HA	6.1V	0V	0V	0V	−5.9V	3.5V	3.5V	1.2V	6.1V	–	–	–	–	–	–	–	–	–
IC112	NJM78M05FA	5.0V	0V	10.0V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
IC113	NJM78M06FA	6.1V	0V	12.5V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
IC114	TA79L006P	−5.9V	0V	−13.0V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
IC501	NJM2904M	0.7V	0.1V	0V	0V	0V	0V	0V	1.5V	–	–	–	–	–	–	–	–	–	–

TRANSISTOR DC VOLTAGES														
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q101	2SC536	0.6V	0V	0V	Q107	2SD1012	−3.3V	0V	0V	Q111	2SC536	0.6V	0V	0V
Q102	2SD1012	0.5V	0V	0V	Q108	2SD1012	−3.3V	0V	0V	Q112	2SC3400	−1.5V	0V	0V
Q103	2SA608	4.8V	1.5V	5.4V	Q109	2SA608	5.9V	−3.3V	0V	Q501	2SA608	0.7V	1.4V	1.4V
Q105	2SC536	0V	4.9V	0V	Q110	2SC536	0V	5.9V	0V					

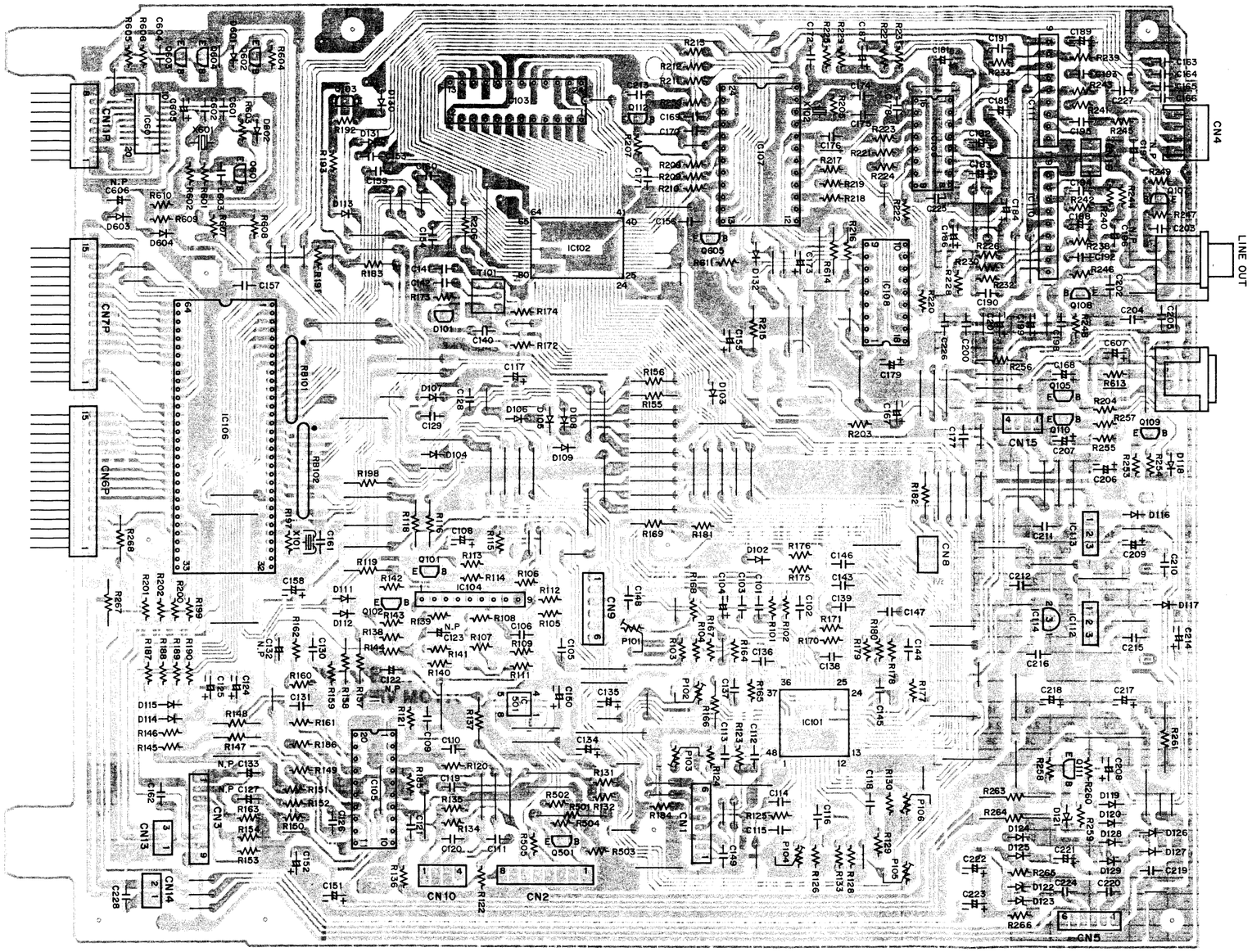
HEADPHONE P.C.BOARD
(BOTTOM VIEW)



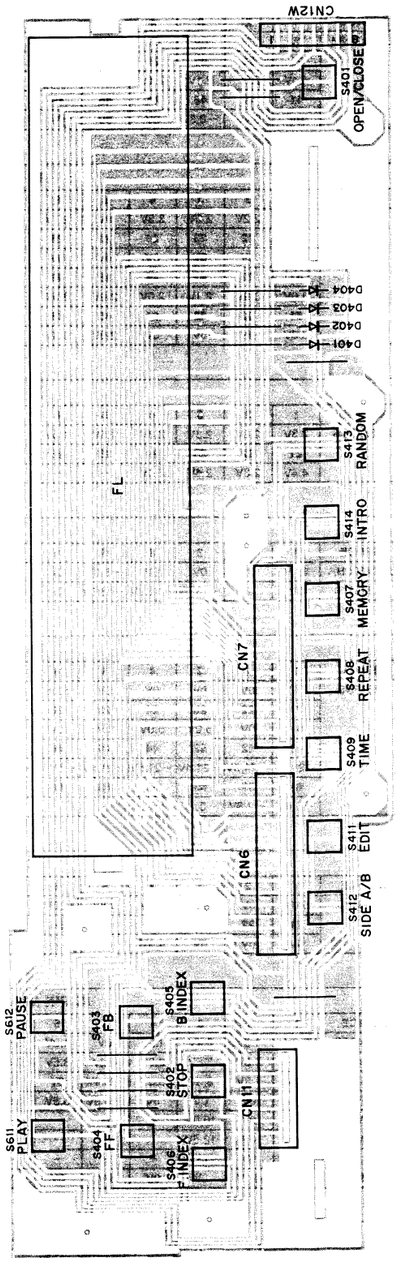
TEN KEY P.C.BOARD
(BOTTOM VIEW)



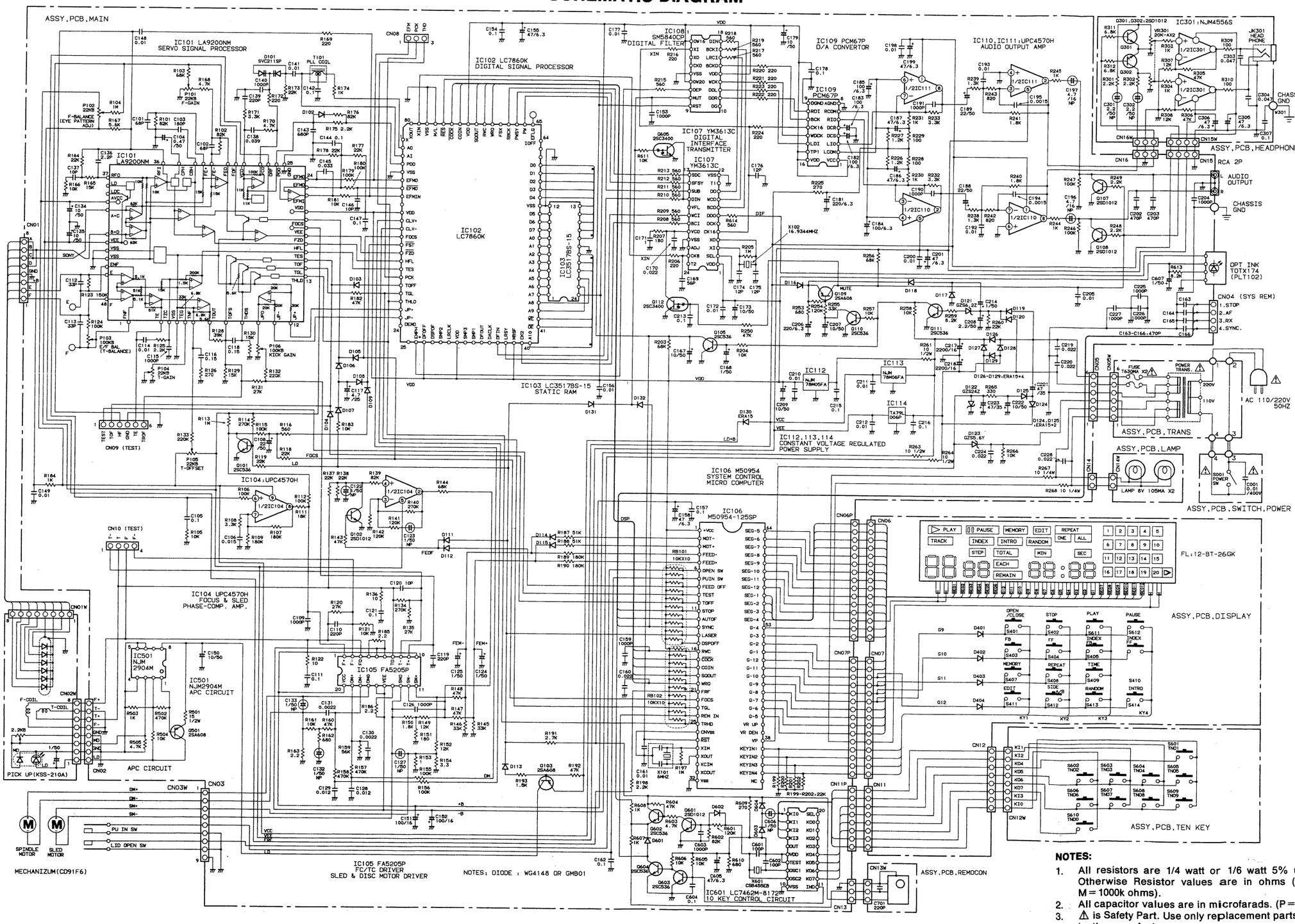
MAIN P.C.BOARD
(BOTTOM VIEW)



DISPLAY P.C.BOARD
(BOTTOM VIEW)



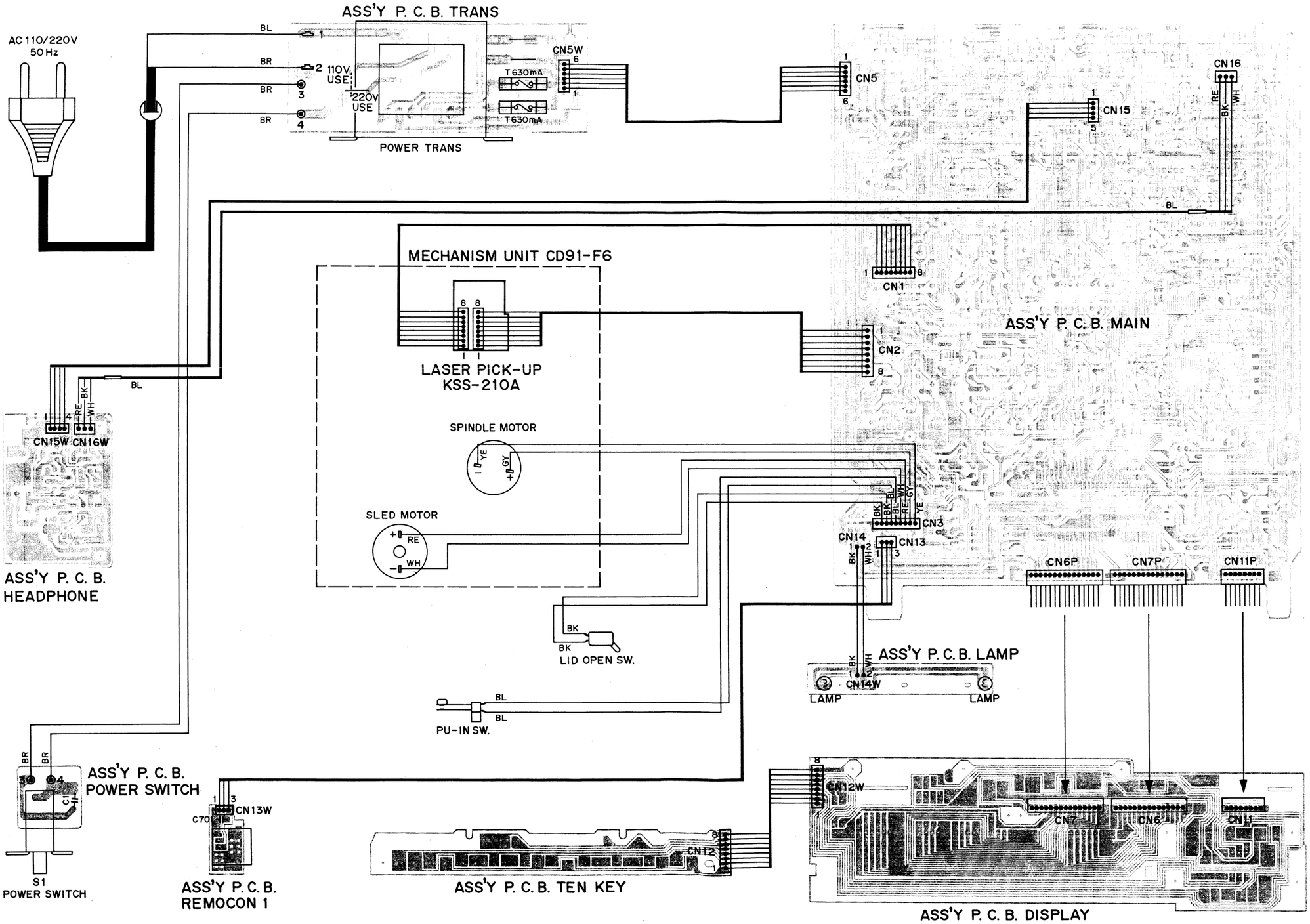
SCHEMATIC DIAGRAM



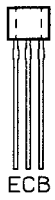
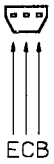
NOTES:

1. All resistors are 1/4 watt or 1/6 watt 5% unless marked. Otherwise Resistor values are in ohms (K=1000 ohms, M=1000k ohms).
2. All capacitor values are in microfarads. (P=picofarads).
3. ⚠ is Safety Part. Use only replacement parts recommended by the manufacturer.
4. This is a basic schematic diagram.

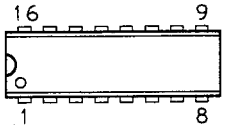
POINT TO POINT WIRING DIAGRAM



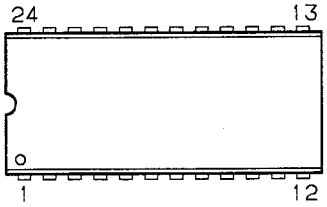
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SC3400 2SC536 2SD1012		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

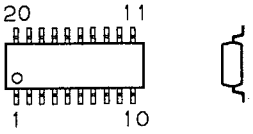
PCM67P TOP VIEW



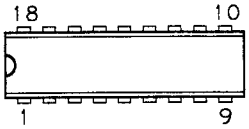
YM3613C TOP VIEW



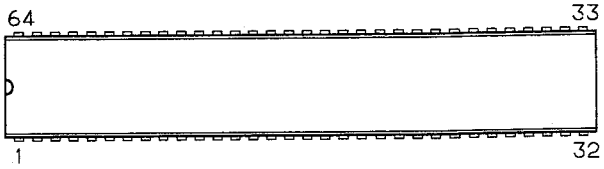
LC7462M-8172 TOP/SIDE VIEWS



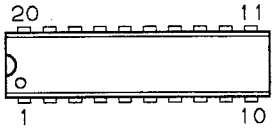
SM5840CP TOP VIEW



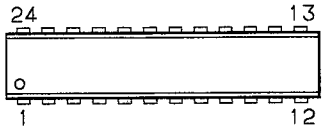
M50954-125SP TOP VIEW



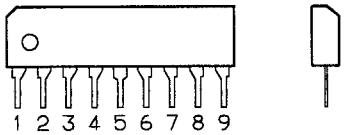
FA5205P TOP VIEW



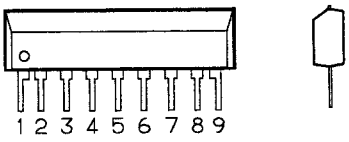
LC3517BS-15 TOP VIEW



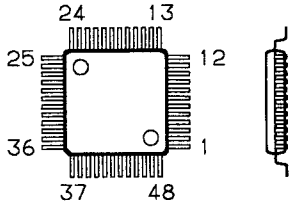
NJM4556S FRONT/SIDE VIEWS



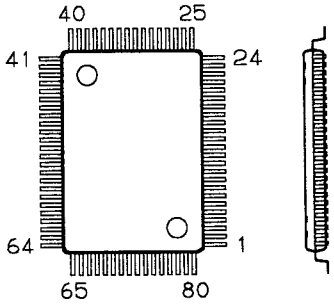
UPC4570HA FRONT/SIDE VIEWS



LA9200NM TOP/SIDE VIEWS

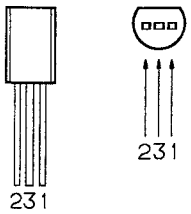


LC7860K TOP/SIDE VIEWS

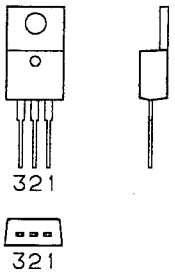


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

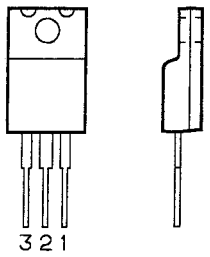
TA79L006P TOP/SIDE VIEWS



NJM78M05FA TOP/SIDE VIEWS



NJM78M06FA TOP/SIDE VIEWS



SANYO FISHER Vertriebs GmbH

Lagerort 38E06

LS-Nr. 817262 / 37

Menge/Quantity 1

Teile-Nr./Parts No. WM57057G

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